

MANUFACTURE OF WHEEL RIMS

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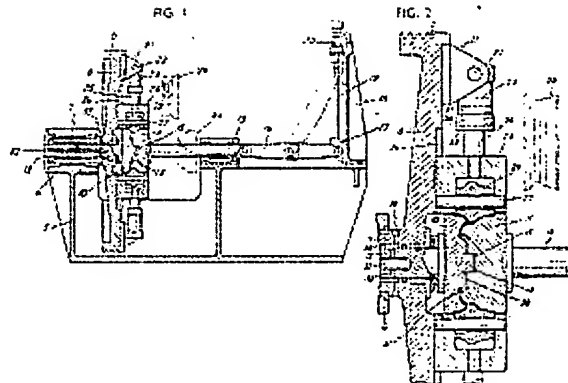
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Abstract of corresponding document: **GB1347434**

1347434 Making wheel-rims GUEST KEEN & NETTLEFOLDS (AUST) Ltd 17 Oct 1972 [21 Oct 1971] 47705/72 Heading B3A A method of making a wheel rim comprises forming a cylindrical sleeve blank into a roughly-formed oversized rim 29 having a circumferential well-base, tyre seat flats circumferentially flanking the well-base, and tyre retaining beads flaring outwardly from the flats, mounting the oversized rim on a two-part male die 10, 11, exerting an axially directed compressive restraint on the insides of the oversized rim while it is mounted on, and by way of, the male die, and while the restraint is being exerted, applying to the outside of the oversized rim a plurality of roller-applied inwardly-directed radial loadings which travel circumferentially relative to the rim. A previously-formed wheel centre 30, Fig. 2, is placed between the die heads 10, 11 and temporarily held using magnets 31. Die head 11 is then advanced using thrust rod 13 which is pivotally connected to a toggle strut 16, Fig. 1, on a vertically movable cross-head 17. Rod 19 is the piston-rod of an hydraulic ram 20. Rim is subjected to pressure and hydraulic rams 23 are operated simultaneously with rotation of face plate 8 so that die rollers 28 run around the rim and force it into conformity with die heads 10, 11. The rollers 28 and die head 11 are retracted when formation of the rim is finished and conventional stripper devices are used to remove the formed wheel-rim from head 11. Die rollers 28 may be in one piece or preferably, to avoid scuffing, comprise a plurality of parts. The rams 23 are single-acting and comprise a compression spring 36 sleeved on piston-rod 25 for the retractive or non-working strokes. Die heads 10, 11 are located relative to one another by means



of a pin 14 and a cavity 15. In another embodiment the die heads (10A), (11B), Fig. 3 (not shown), are not formed so as to accommodate a wheel centre 30. Also, the rams (23A) are double-acting and served by hydraulic pipes (39). In a further embodiment, Fig. 4 (not shown), rollers (40) are restrained about planetary movement and mounted on a stationary face plate (41). Die head (10B) is fixed on a drive shaft (42) and thus rotates the rim. Die head (11B) is freely rotatable on thrust rod (43) in bearing (44). The rollers 28, (40) are freely revolvable but may be equipped for power rotation thereof.

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